



First record of *Parasteatoda celsabdomina* (Zhu, 1998) (Aranaea: Theridiidae) from India

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ABSTRACT

Parasteatoda is one of the species rich genus of the family Theridiidae. About 43 species of genus *Parasteatoda* is reported from different parts of world so far. *Parasteatoda celsabdomina* (Zhu, 1998) is reported for the first time from India. Female of *Parasteatoda celsabdomina* (Zhu, 1998), is collected from Peechi-Vazhani wildlife sanctuary, Kerala. *Parasteatoda celsabdomina* (Zhu, 1998) is earlier reported from China, Thailand and Laos.

Keywords: Theridiidae, *Parasteatoda*, taxonomy, new record, India.

Abbreviations: AL-Abdomen length; AW-Abdomen width; CL-Cephalothorax length; CW-Cephalothorax width; TL-Total length; AME-anterior median eyes; ALE- anterior lateral; eyes, PME- posterior median eyes, PLE- posterior lateral eyes.

1. INTRODUCTION

Comb footed spider family is one of the largest family of spiders in the world with about 2472 species in 124 genera (World spider catalogue, 2016). These include 58 Indian species belonging to 19 genera (Sebastian & Peter, 2009). In spite of rich diversity, studies about Indian theridiids are highly neglected, probably due to their small size and lack of literature (Siliwal, 2009). *Parasteatoda* (Archer, 1946) is one of the largest genera of theridiidae with 43 species, but only two species of this genus are recorded from India so far. It can be diagnosed by the unextended cymbium of male palp, median apophysis being attached to the embolus, subtegulum smaller and depressed and tegulum larger (Yoshida, 2008). *Parasteatoda* (Zhu, 1998) is also characterized by the presence of epigyne without posterior lobe but with a distinct depression, while in *Achaearanea* spermathecal duct is thickened near the opening and thin and coiled near the seminal receptacle.

In this paper we report the first record of *P.celsabdomina* (Zhu, 1998) from India. The present species is collected from Peechi-Vazhani wildlife sanctuary, situated at 20 km east of Thrissur district of Kerala. The sanctuary is situated in the catchment area of Peechi and Vazhani dams and has rich faunal and floral diversity.

2. MATERIALS AND METHODS

Specimens were collected by hand during August 2016 from Peechi-Vazhani wildlife sanctuary, Kerala, India. Photographs of live specimens were taken with digital camera, Canon EOS 600D. The micro-photographic images were taken using Canon EOS 600D digital camera attached to Labomed CZM6 stereomicroscope using EOS utility software. The material was preserved in 75% alcohol. Female epigyne was cleared in clove oil. All measurements are in millimeters. Leg measurements are given as: Femur, Patella, Tibia, Metatarsus (except palp), Tarsus and Total.

3. RESULTS

Taxonomy

Theridiidae Sundevall, 1833

Parasteatoda (Archer, 1946)

Parasteatoda celsabdomina (Zhu, 1998)

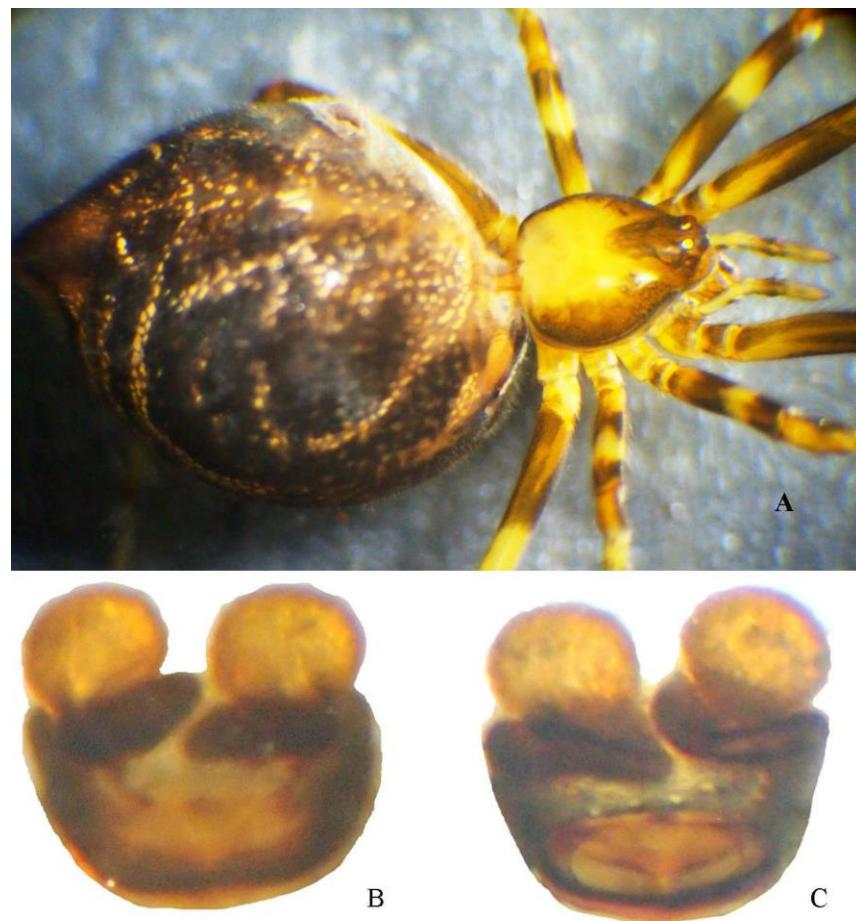
Material examined: Two Females, Peechi-Vazhani wildlife sanctuary, Kerala, India. Repository: DMCK-TH2016-005, DMCK-TH2016-006, Arachnological Collections, Zoology Museum, Deva Matha College, Kuravilangadu, Kerala, India.

Diagnosis: *P.celsabdomina* (Zhu, 1998) can be separated from *P.angulithorax* (Boesenberg et.al. 1906) by the nature of sclerotized spermathecal ducts, spermathecal ducts being closer to each other in *P.celsabdomina* and widely separated in *P.angulithorax*. On comparison with *P.angulithorax* copulatory duct of *P.celsabdomina* is slightly longer than wide.

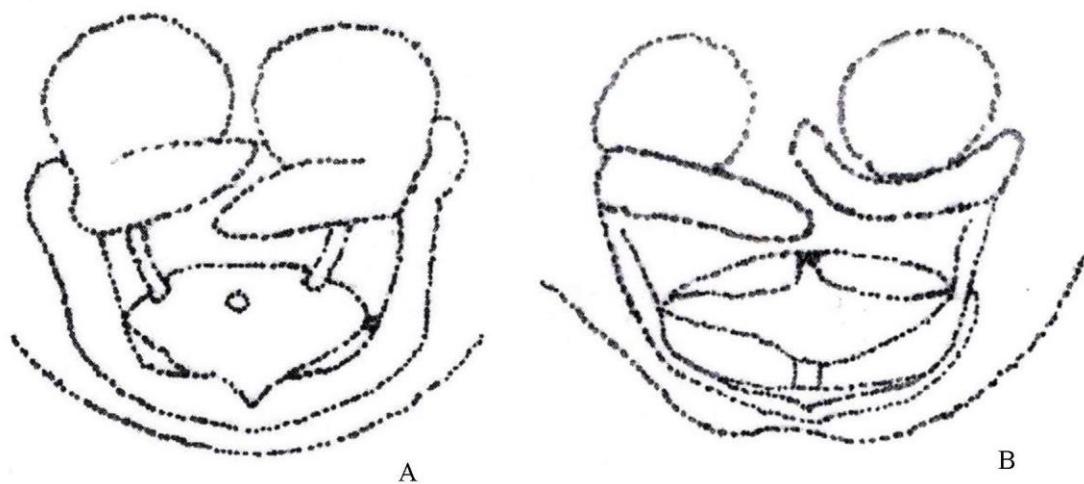
Description of specimen DMCK-TH2016-005**Figure 1**

Parasteatoda celsabdomina (Zhu, 1998) in life

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**Figure 2**

P.celsabdomina. A. Dorsal view, B. Epigyne-ventral view, C. Epigyne- dorsal view

**Figure 3**

P.celsabdomina. A. Epigyne-ventral view, B. Epigyne- dorsal view

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Measurements of Female: CL-4.11, CW-2.77, AL-5.11, AW-4.16, TL-9.22, Palp and legs: Palp (0.78, 0.31, 0.70, 0.59; **2.38**); I (2.14, 0.58, 1.46, 1.80, 0.88; **6.86**); II (1.38, 0.54, 0.88, 1.09, 0.80; **4.69**); III (1.32, 0.20, 0.55, 0.68, 0.46; **3.21**); IV (5.93, 1.67, 3.88, 4.72, 2.49; **18.69**).

Cephalothorax longer than wide, pale yellowish, dark brownish on cephalic and lateral margins (Figure 1 & 2A). Eyes eight, in two rows, slightly elevated, eye rings present. Eye diameter: AME-0.1, ALE-0.1, PME-0.22, PLE-0.14. Sternum heart shaped, with black markings on center and light yellow color on the margins. Legs long, slender with black stripes and clothed with fine hairs. Leg formula-1432. Chelicerae smaller, pale yellowish brown, teeth absent; fangs smaller, dark colored and curved.

Abdomen oval, pointed posteriorly, longer than wide (Figure 1 & 2A). Dorsum blackish with white markings. Venter pale yellowish with black irregular lines and golden hairs. Spinnerets well developed, ash colored, all are not equal in size. Epigyne brownish, consists of sclerotized round spermatheca, and a median semicircular opening, the circular opening has an apical rim; the median bulge is not present in the apical rim as in Zhu, 1998 (Figure 2B & 3A). Internal epigyne consists of a pair of round spermatheca, with slightly long arms touching each other (Figure 2 C & 3B).

4. DISTRIBUTION

China, Thailand, Laos and India (new record).

5. ECOLOGY

The spider and the egg sac were found hanging on a stick attached by silk along with debris of prey consumed by the spider.

6. DISCUSSION AND CONCLUSION

Genus *Parasteatoda* was first established by Archer, 1950, and is mainly distributed in the East Asia and South East Asia (Yoshida, 2008). It shows very close similarity with genus *Achaearanea*. *P.celsabdomina* (Zhu, 1998) is transferred here from genus *Achaearanea* by Yoshida, 2008. Two known species reported from India are, *P.brookesiana* (Barrión & Litsinger, 1995) from Mettupalayam, Tamil Nadu (Ganeshkumar, et.al. (2007) and *P.oxytaculata* (Zhu, 1998) from Mahendri region, Satpura range. The present record extends the distribution of the species to the South Asia.

SUMMARY OF RESEARCH

First record of *P.celsabdomina* (Zhu, 1998) is reported from India.

The diagnosis and illustration of *P.celsabdomina* (Zhu, 1998) is given.

The present record extends the distribution of *P.celsabdomina* (Zhu, 1998) to South Asia.

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REFERENCES

- Archer, A. F. 1946. The Theridiidae or comb footed spiders of Alabama. Alabama Mus. Nat. Hist., 22: 1-67.
- Archer, A. F. 1950. A study of theridiid or mimetid spiders with description of new genera and species. Alabama Mus. Nat. Hist., 30: 7-40.
- Ganeshkumar, M. & Siliwal, M. (2007). First record of *Achaearanea brookesiana* Barrion & Litsinger, 1995 (Araneae: Theridiidae) from mainland India. Zoo's Print Journal 22: 2926-2928
- Platnick, N. I. 2013. The World Spider Catalog, version 14.0. American Museum of Natural History. Available from: <http://research.amnh.org/iz/spiders/catalog>. DOI 10.5531/db.iz.0001 (accessed 4 December 2013).
- Sebastian P.A., Peter K.V., 2009, Spiders of India. Universities Press (India) Pvt. Ltd., 614 pp.
- Siliwal M., 2009, A new species of the genus *Chrysso* O. P. Cambridge (Araneae: Theridiidae) from Arunachal Pradesh, India. Biosystematica, 3: 5-9.